REMARKS

Claims 1 and 3-5 are pending. Claim 2 has been cancelled. Claims 1 and 5 have been amended. No new matter has been added.

Claim 1 is rejected under 35 USC 103(a) as being unpatentable over Lew, WO92/17951 in view of Borazjani, U.S. Patent No. 5,825,829. This rejection is respectfully traversed.

Claim 1 recites a single resampling device. In Applicant's previous response, Applicant submitted that Borazjani fails to disclose or suggest using a single resampling device. In the current Action, the Examiner asserts that it is well known that a device may refer to a machine to that consists of multiple components, not limited to just one. The Examiner further asserts that a single device may be interpreted as multiple identical components that constitute a single device. The Examiner asserts that Borazjani teaches a multi-channel modulating system that comprises a plurality of input signals and upsampling to higher frequencies, and although block 120 has a "set of same upsampler [sic], it performs the same task as a single upsampler," whether to have two upsamplers or only one upsampler produces no new or unexpected results as long as upsampling of input signals is produced. Thus, the Examiner considers that it would have been obvious to implement the upsampling device by Borazjani in the digital signal synchronization of Lew to reduce cost, reduce system size and produce desired signals in a communication system. Applicants respectfully disagree.

Applicant submits that it is very important to the claimed invention that the signals sampled with different operating clocks be sampled again with a common re-sampling device. With the use of two separate re-sampling devices, there is the danger that the re-sampling devices do not work absolutely synchronously and consequently the digital auxiliary signals would no longer be synchronous. Thus, according to the claimed invention, it is crucial that the same resampling device be used, which means that the multiple resampling devices of Borazjani would not function as needed to recreate the claimed invention.

Notwithstanding the above, claim 1 has been amended to recite "wherein before sampling the digital input signals with the post-processing clock, the respective digital input signals are filtered with a filter having a characteristic which is an inverse of a characteristic of an interpolation filter used for interpolating." The Examiner, in the rejection of claim 2, asserts that this feature is taught by the combination of Lew, Borazjani and Yen. Applicant respectfully disagrees.

Fig. 1 of this application illustrates that an analog input signal x(t) is first converted from analog to digital (A/D converter 2), i.e. to a digital input signal x(k). According to the feature newly incorporated in claim 1, this digital input signal x(k) is first filtered with a filter 3. Filtered digital input signals xd(k) are generated. These filtered digital input signals xd(k) are re-sampled with the common re-sampling device 11 so that digital auxiliary signals xd(nk+y) are generated. These digital help signals are subsequently filtered with interpolation filters 12. Digital output signals x(nk+j) result.

According to the above-recited feature of claim 1, the filtering of digital input signals x(k) is carried out with a filter 3 which has a filter characteristic inverse to the interpolation filter 12. Accordingly, errors in the interpolation are compensated since over the entire transmission interval, the digital filter 3 and the interpolation filter 12 have a transmission function with the value 1.

The examiner argues that such an inverse filter follows from figure 1 of Yen. However, Fig. 1 and the corresponding description in column 3, line 43 to column 4, line 24, fails to teach or suggest a filter pair with transmission functions inverse to one another. Only so-called phase sliders 36 and 38 are taught by Yen. These so-called phase sliders perform an interpolation function of the real and imaginary portions of a digitized input signal. This does not correspond to a digital filter with which the input signals have been filtered previously and which has a transmission function inverse to the transmission function of the phase sliders. Thus, no function transmission of 1 for the signal transmission results from Yen et al.

Thus, for at least these reasons, the features of claim 1 are not taught or suggested by the cited art, either alone or in combination. Applicant requests that this rejection be withdrawn.

Claim 2 is rejected under 35 USC 103(a) as being obvious over Lew in view of Borazjani, and further in view of Yen, U.S. Patent No. 4,707,841. This rejection is moot in view of the foregoing claim amendments and is address above in connection with claim 1.

Claim 3 is rejected under 35 USC 103(a) as being obvious over Lew, in view of Borazjani and further in view of Menkhoff, U.S. Patent No. 6,137,349. This rejection is respectfully traversed.

Claim 3 is allowable at least due to its dependency from claim 1, and further in view of the failure of Menkhoff to overcome the deficiencies of the combination of Lew and Borazjani. Applicant requests that this rejection be withdrawn.

Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Lew in view of Borazjani, and further in view of Ley, U.S. Patent No. 6,594,613. This rejection is respectfully traversed.

Claim 4 is allowable at least due to its dependency from claim 1, and further in view of the failure of Ley to overcome the deficiencies of the combination of Lew and Borazjani. Applicant requests that this rejection be withdrawn.

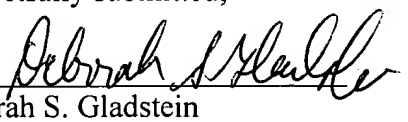
Claim 5 is rejected under 35 USC 103(a) as being unpatentable over Lew in view of Borazjani and further in view of Ley and further in view of Camp, U.S. Patent 5,592,517. This rejection is respectfully traversed.

Claim 5 depends indirectly on claim 1, and is allowable at least due to the failure of Ley and Camp to overcome the deficiencies of Lew and Borazjani. Applicant requests that this rejection be withdrawn.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 449122006400.

Dated: December 18, 2006

Respectfully submitted,

By 

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